

3.17 PUBLIC SERVICES AND UTILITIES

3.17.1 Affected Environment

This section discusses the following public services and utilities: police and fire protection, hospitals and emergency medical services, schools, water supply, stormwater management, sewer, solid waste, telecommunications, and energy and natural resources. Information in this section is based on data presented in the ASC (OPL 1998).

3.17.1.1 Police

The pipeline corridor is about 372 km (230 miles) long and crosses the counties of Snohomish, King, Kittitas, Grant, Adams, and Franklin. Large sections of the pipeline corridor cross unpopulated or sparsely populated rural areas. Municipal police departments provide protection for the various communities along the pipeline corridor. The ratio of commissioned officers to 1,000 citizens for these municipalities varies from 1.54 in Ellensburg to 4.53 in Snoqualmie (Table 3.17-1).

Police protection in unincorporated rural areas along the pipeline corridor is provided by county sheriff departments and the Washington State Patrol. The ratio of officers to 1,000 citizens is slightly lower in the unincorporated areas, with a range of 0.54 in Franklin County to 2.15 in Adams County. In comparison, the state of Washington has an average of 1.64 officers per 1,000 population. Table 3.17-2 provides specific information for police response capabilities for three departments near the Kittitas Terminal site.

3.17.1.2 Fire

Fire protection in unincorporated rural areas is provided by county fire protection districts. Municipal fire departments provide protection for the various communities along the pipeline corridor. Most of the county fire protection districts are volunteer districts with limited manpower and equipment (Table 3.17-3). They generally can provide, at most, adequate fire protection to residential, commercial, and farm structures. The municipal fire departments generally possess paid full-time fire fighting professionals and larger, more sophisticated fire fighting equipment arsenals.

The proposed site of the Kittitas Terminal is on the edge though just outside of the Kittitas city limits. The location is currently covered by the Kittitas County Fire Protection District #2, which has a combined staff of full-time paid employees and volunteers (Table 3.17-4). The City of Kittitas has its own volunteer municipal fire department and the City of Ellensburg has a staffed fire department.

Table 3.17-1. Police Department Staffing Levels in the Project Vicinity^(a)

County/City	Population	Number of Commissioned Officers	Ratio of Officers to 1,000 Population^(b)
Snohomish County	266,149 ^(c)	166	0.62
King County	643,976 ^(c)	629	0.98
Kittitas County	11,275 ^(c)	22	1.95
Grant County	62,000 ^(c)	37	0.60
Adams County	7,435 ^(c)	16	2.15
Franklin County	42,400 ^(c)	23	0.54
Snoqualmie	1,545	7	4.53
North Bend	(Contracts with King County Public Safety Department)		
Ellensburg	12,361	19	1.54
Kittitas	944	3	3.18
Pasco	21,645	44	2.03

^(a) Data from the Washington Association of Sheriffs and Police Chiefs (1995) as cited in OPL (1998).

^(b) The Washington State average is 1.64.

^(c) These figures include unincorporated areas and contracted incorporated areas.

Sourec: OPL 1998.

Table 3.17-2. Police Department Staffing Levels in the Kittitas Terminal Vicinity

	Agencies*		
	Kittitas Police Department	Kittitas County Sheriff's Office	Washington State Patrol District 6
Number of Police Stations in District	4	1	Detachment office in Ellensburg, commercial vehicle enforcement detachment in Cle Elum
Number of Staff	1 supervisory position	2	2 first line supervisors (sergeants); 12 available line troopers; 8 commercial vehicle enforcement officers and 2 supervisors
Average Number of Calls Per Year and Response Time	Approx. 900 calls per year, not including traffic stops	unknown	7000 calls for service (including accidents); average response time is 20 mins.
Number of Patrol Vehicles and Officers Per Vehicle	Dept. has one car, each deputy has own car	18 vehicles, 1 officer per vehicle	14 patrol cars, 1 officer per car
Other Types of Equipment Available for Emergency Response	Local fire departments	SAR, HAM Radio, MAST, etc.	Commercial enforcement vehicles (6) for road blocks/traffic control
Current Staff, Vehicle, and Other Needs	Dept. has 3 full time officers, 1 patrol car	unknown	4 patrol cars and troopers
Anticipated Additional Staff, Vehicle and Other Needs During Project Construction	The Dept. would like to add another officer full time and possibly 2 reserves during construction. This will be a project in need of security and the Dept. does not have the manpower to cover the site 24 hours a day. Will need another fully equipped patrol vehicle to assist with the security and to enable communication.	5 people, 5 vehicles	Any manpower needed for traffic control during construction would need funding.

* Ellensburg Police Department did not respond to written request for information.

Sources: Lael, J., Police Chief, Kittitas Police Department, personal communication, May 1997; Juvett, J., Undersheriff, Kittitas County Sheriff's Office, personal communication, May 1997; Larson, Lieutenant, Washington State Patrol, District 6, personal communication, May 1997. All as cited in OPL 1998.

Table 3.17-3. Fire Districts/Departments in the Project Vicinity^a

County	Fire District/Department	Personnel Status^b	Protection Class^c
Snohomish	Bothell Fire Department	P	4/7
	Snohomish County FPD #1 - Alderwood Manor	C	4/7
	Snohomish County FPD #3 - Monroe	C	>8/9
	Snohomish County FPD #7 - Clearview	C	>5/7
King	North Bend Fire Department	C	5/7
	Snoqualmie Fire Department	C	6/9
	King County FPD #10 - Issaquah/Carnation	C	5/7
	King County FPD #27 - Fall City	C	6/9
	King County FPD #38 - North Bend	C	6/9
	King County FPD #45 - Duvall	C	>5/7
	King County FPD #51 - Snoqualmie Pass	V	8/9
Kittitas	Ellensburg Fire Department	C	4/7
	Kittitas Fire Department	V	6/9
	Kittitas County FPD #1 - Thorp	V	6/9
	Kittitas County FPD #2 - Ellensburg	C	8/9
	Kittitas County FPD #3 - Easton	V	8/9
	Kittitas County FPD #4 - Vantage	V	8/9
	Kittitas County FPD #6 - Lake Cle Elum	V	8/9
	Kittitas County FPD #7 - South Cle Elum	V	>8/9
	Kittitas County FPD #8 - Lake Kachess	V	9
Grant	Grant County FPD #8 - Mattawa	V	8/9
	Grant County FPD #10 - Royal City	V	8/9
	Grant County FPD #11 - East Royal Slope	V	9
Adams	Adams County FPD #5 - Othello	C	>8/9
Franklin	Pasco Fire Department	P	5/7
	Franklin County FPD #3 - Pasco	C	>7/9
	Franklin County FPD #4 - Basin City	V	8/9

^(a) Data from personal communications with individual department fire chiefs and from the Washington State Fire Service Directory (1993).

Table 3.17-3. Fire Districts/Departments in the Project Vicinity^a

County	Fire District/Department	Personnel Status ^b	Protection Class ^c
(b)	P = All Full-Time Paid; V = All Volunteer; C = Combination of Full-Time Paid and Volunteer.		
(c)	<p>As rated by the Washington Surveying and Rating Bureau (1995). Fire district protection class ratings are used to evaluate fire protection availability for insurance purposes and are assessed to all municipal and rural areas by the Washington Surveying and Rating Bureau. Ratings range from 1 to 10, with class 1 representing the highest level of fire protection and class 10 the lowest level. A class 1 rating is rarely achieved. Ratings are based on four elements: the available water supply; the logistical characteristics and makeup of the district fire department; the available communications systems; and finally the fire control/safety measures taken and ordinances in effect in the particular fire district. Adequacy of fire protection indicated by a protection class rating is dependent upon the types of areas being rated. A rating of 8 or 9 is typical for a rural area. This low rating is usually due to the fact that standard fire hydrant service, required in more urban areas, is not available, and rural volunteer fire departments do not have full-time staff or formally equipped fire stations and facilities. The situation is further aggravated by access problems and reliance on volunteers who often must travel long distances to respond to calls. These factors lead to long response times and limited fire fighting ability. A rating of 8 or above, however, does not necessarily mean that fire protection is inadequate. It indicates that according to the standards of fire protection services, set up primarily for municipalities, an area is lacking in some conventional means of fire protection. Where two classifications are listed (e.g., 6/9) the following is applied: A) For Dwelling Properties the first number applies and the second number is disregarded; B) For Other Properties, (1) The first classification listed applies to properties within 600 feet of a standard fire hydrant and within 5 road miles of a recognized fire station, and (2) The second classification applies to properties located over 600 feet from a standard fire hydrant, but not over 5 road miles from a recognized fire station; C) For All Class Rated Properties (i.e., Dwellings and Other Properties), (1) Where a single Class 9 is listed, (a) Class 9 applies to properties not over 5 road miles from a recognized fire station, and (b) Class 10 applies to all other properties, (2) If the classification of an area is not listed, Class 10 applies. The symbol > indicates the existence of an Approved Tanker Operation (Dwelling Properties only).</p>		

Source: OPL 1998.

Table 3.17-4. Fire Districts/Departments in the Kittitas Terminal Vicinity

	Agencies		
	Kittitas Fire Department	Ellensburg Fire Department	Kittitas County Fire District No. 2
Number of Fire Stations	1	1	10
Number of Personnel	13	16 firefighters, 15 part-paid firefighters, 2 chiefs, 2 clerical staff.	3 paid firefighters, 1 paid fire chief, 1 paid secretary, 6 resident volunteer firefighters, 85 volunteer firefighters.
Number of Personnel Typically On Duty or On Call	1	One 5-person shift with the supervisory staff available. Off-duty personnel and part-paid staff are available for call back.	1 paid firefighter on duty, 1 paid firefighter on-call, 2 resident volunteers, 1 fire chief (on duty 8 a.m.-5 p.m., M-F and on call other hours), 85 volunteer firefighters.
Average Number of Calls Per Year and Average Response Times	10 fire calls/30 aid calls; 2 to 3 mins. response time	279 fire calls and 1477 aid calls in 1996. No real seasonal peaks. Average fire response time of 6 mins.	364 calls in 1996; Seasonal peaks - spring field burns, late summer harvest grass/brush fires, winter heating, fireplaces, woodstoves; Types of calls: Vehicle EMS - 60, Other EMS - 38, Mutual Aid - 43, Structure - 30, Vehicle Fires 30, Chimney - 11, Hazmat - 5, Hay/Grass - 97, Smoke Investig. - 24, Misc. - 26.
Number Of and Pumping Capacity of Trucks	1 pump, 1000 gpm, 1979 Ford	2 Class A 1500 GPM pumpers, 1 Class A 1250 GPM pumper, 1 100 foot aerial ladder with 1500 GPM pump.	10 1000 gal tank engines, all 750 gpm; 1 tender - 3000 gal tank with pump; 1 brush truck - 600 gal. tank, pump and foam equipped, 1 brush truck - 125 gal. tank with pump; District has signed a contract for purchase of a 1997 engine, 1000 gal. tank, 1250 GPM pump with CAFS (Compressed Air Foam System, Class A).
Major Types of Equipment Available, Including Those Needed to Fight Petroleum Fires	No equipment available	No other equipment available	District has a crawler cat with a clam shell bucket. If requested to provide protection to the terminal, the Fire District would request additional equipment either by mutual aid agreement, or by renting the equipment as needed. There is no major foam-capable equipment available in Kittitas County. County is getting a start in foam support by the purchase of a new engine. The foam system as ordered is not for oil type fires, but the appropriate system can be added to the contract for extra dollars.
How Units are Dispatched and Coordinated	911/pagers; KITTCOM Central Dispatch	All units dispatched by KITTCOM, KITTCOM is county-wide dispatch	Central Dispatch for entire county. Upon request by Dist. 2 command, can have mutual aid departments dispatch through the dispatch center. This dispatch center is used for all emergency

Table 3.17-4. Fire Districts/Departments in the Kittitas Terminal Vicinity

		Agencies	
	Kittitas Fire Department	Ellensburg Fire Department	Kittitas County Fire District No. 2
Current Staff, Truck and Other Needs	Needs help with a larger station	Currently in need of a unit to replace the 1250 GPM engine due to age/condition. Do not have any petroleum fire fighting equipment at this time other than a small amount of AFFF foam.	agencies and is manned 24hours. Equipment: Dist. 2 has a need for additional foam equipment for oil fires (Class B or Class A Triple F). Staff: No needs Stations: There is a need for an additional unmanned station near the site of the proposed terminal. This station could be a Dist. 2/City of Kittitas Station. The current Kittitas station is not an adequate facility - it cannot accommodate the newer equipment. The closest District pumper is in the City of Kittitas. Kittitas has only one pumper. Kittitas has no paid staff. All Kittitas personnel are District volunteers, trained by District 2.
Current Staff, Truck and Other Needs (continued)			District 2 responds to all major fires in the City of Kittitas under a mutual aid agreement.
Anticipated Additional Staff, Truck, Equipment, and Other Needs During Project Operation	Need to update trucks/equipment need more special petroleum firefighting equipment	Anticipate addition of 3-6 personnel to department within the next 5 to 10 years. If Ellensburg were to be responsible for the control of large petroleum fires, they would have to add the required specialized equipment. Due to the location of the terminal, they would not be the primary responding agency for fires. They would definitely be in line for mutual-aid.	Does not have any petroleum fire fighting equipment in the District, or in the county, to deal with any major fire, explosions, or spills.
Sources: Hink, R., Fire Chief, Kittitas Fire Department, personal communication, May1997; Alder, S., Fire Chief, Ellensburg Fire Department, personal communication, May 1997; Baker, S., Fire Chief, Kittitas County Fire District No. 2, personal communication, May 1997. All as cited in OPL 1998.			

3.17.1.3 Hospitals and Emergency Medical Services

Emergency medical services are provided in the proposal vicinity by primary response ambulance units and area hospitals. In most cases, ambulance units are operated through local fire departments, although there are a few private service providers along the six-county pipeline corridor (Table 3.17-5). About one-half of the services are located in more urban areas and have paid personnel, whereas the smaller and more rural departments have volunteer staff. Most services provide a basic life support (BLS) level of care, with only three providing advanced life support (ALS), and one providing intermediate life support (ILS). Table 3.17-6 provides a summary of the ambulance service available at the Ellensburg Fire Department, the closest ALS service provider to the Kittitas Terminal.

Acute-care hospitals can be found in many of the cities in the vicinity of the pipeline corridor and have a range of capacity from 28 beds (Snoqualmie Valley Hospital in King County) to 475 beds (Providence General Medical Center in Snohomish County) (Table 3.17-7). Each county possesses at least one acute-care hospital within the vicinity of the proposal that provides emergency medical services including receiving patients via emergency medical helicopters. The vicinity of the proposed Kittitas Terminal is served by the Kittitas Valley Community Hospital in Ellensburg, which has a 50-bed capacity and is supported by intermediate to advanced life support ambulatory services (Table 3.17-8), as well as other more distant acute care hospitals.

3.17.1.4 Schools

None of the individual school buildings in public school districts located close to the pipeline corridor are located directly adjacent to the proposed facilities. Public higher education facilities in the pipeline corridor vicinity include Edmonds Community College in Snohomish County; Bellevue Community College, Lake Washington Technical College, and University of Washington (branch campus) in King County; Central Washington University in Kittitas County; Big Bend Community College in Grant County; and Columbia Basin College in Franklin County.

In addition to these public schools, there are also several private elementary and secondary schools, colleges, and universities in the proposal vicinity. Many of these private institutions are affiliated with church or religious organizations, and most are located in the more urbanized areas along the pipeline corridor.

3.17.1.5 Water

Potable water is available to residents living in the vicinity of the pipeline corridor from a variety of sources, including municipal water departments, public utility districts, public water districts, community water associations, individual well systems, and private water companies. Many of these agencies have their own water supply sources and distribution networks. However, several of these agencies have only distribution networks and buy water wholesale from other water supply purveyors.

Table 3.17-5. Ambulance Service Providers in the Project Vicinity^(a)

County	Name	Agency Type	Personnel Status	Level of Care^(b)
Snohomish	Snohomish County FPD #1 - Alderwood Manor	Fire District	Paid	BLS
	Snohomish County FPD #3 - Monroe	Fire District	Paid	ALS
	Bothell Fire Department	Municipal	Paid	BLS
	Shannon Ambulance	Private	Paid	BLS
King	King County FPD #10 - Issaquah/Carnation	Fire District	Paid	BLS
	King County FPD #27 - Fall City	Fire District	Volunteer	BLS
	King County FPD #45 - Duvall	Fire District	Volunteer	BLS
	King County FPD #51 - Snoqualmie Pass	Fire District	Volunteer	BLS
	Shepard Ambulance, Inc.	Private	Paid	BLS
	American Medtech	Private	Paid	BLS
Kittitas	Kittitas County FPD #3 - Easton	Fire District	Volunteer	BLS
	Cle Elum Fire Department	Public	Volunteer	BLS
	Ellensburg Fire Department	Municipal	Volunteer	ALS
	Kittitas County PHD #2	Private	Paid	ILS
Grant	Grant County FPD #8 - Mattawa	Fire District	Volunteer	BLS
	Grant County FPD #10 - Royal City	Fire District	Volunteer	BLS
Adams	Othello Ambulance Service	Private	Volunteer	BLS
Franklin	Franklin County FPD #3 - Pasco	Fire District	Volunteer	BLS
	Pasco Fire Department	Municipal	Paid	ALS

^(a) Data from the Emergency Medical Services Provider List, Washington State Department of Health (1995) as cited in OPL (1998).

^(b) ALS = Advanced Life Support

BLS = Basic Life Support

ILS = Intermediate Life Support

Source: OPL 1998.

**Table 3.17-6. Ambulance Services Provided by the
Ellensburg Fire Department in the Kittitas Terminal Vicinity**

Item	Description
Number of Ambulance Services	1 ALS ambulance service operated by Ellensburg Fire Department
Number of Staff	9 Paramedics; 7 EMT's; 2 Supervisory; 2 Support Staff; 14 Volunteer FF
Number of Personnel Typically on Duty	5 on duty; remainder on call
Average Calls and Response Time	1996 EMS Calls - 1477 (96 life threatening, 472 urgent, 529 non-urgent, 380 other) Average Response Times - Urban, 4.3 mins.; Suburban, 5.0 mins.; Rural, 13.2 mins.; Wilderness, 25.8 mins.
Number of Emergency and Rescue Vehicles	3 ambulances
Types of Equipment Available	All common hand tools including hydraulic jaws
Availability of Special Support Services	MAST helicopter from Yakima Firing Training Center; AirLift NW from Seattle
How Calls Are Received	Countywide E-911 dispatch center (KITTCOM)
Current Needs	Anticipating to add one additional ambulance in the near future
Anticipated Additional Needs During Project Operation	Unable to determine at this time
Source: Alder, S., Fire Chief, Ellensburg Fire Department, personal communication, May 1997. As cited in OPL 1998.	

Table 3.17-7. Acute Care Hospitals in the Project Vicinity^a

County	Name	Location	No. of Beds	Helipad
Snohomish	Providence General Medical Center	916 Pacific Avenue, Everett	475	Yes
	Stevens Memorial Hospital	21601 - 76th Avenue W., Edmonds	217	No
	Valley General Hospital	14701 - 179th SE., Monroe	72	No
King	Evergreen Hospital Medical Center	12040 NE. 128th Street, Kirkland	149	Yes
	Group Health Eastside Hospital	2700 - 152nd Avenue NE., Redmond	179	No
	Overlake Hospital Medical Center	1035 - 116th Avenue NE., Bellevue	257	No
	Snoqualmie Valley Hospital	1505 Meadowbrook Way SE., Snoqualmie	28	Yes
	Valley Medical Center	400 S. 43rd Street, Renton	303	Yes
Kittitas	Kittitas Valley Community Hospital	603 S. Chestnut, Ellensburg	50	Yes
Grant	Columbia Basin Hospital	200 Southeast Boulevard, Ephrata	58	Yes
	Quincy Valley Hospital	908 - 10th Avenue SW., Quincy	38	Yes
	Samaritan Hospital	801 E. Wheeler Road, Moses Lake	50	Yes
Adams	Othello Community Hospital	315 N. 14th Avenue, Othello	49	Yes
Franklin	Our Lady of Lourdes Health Center	520 N. 4th Avenue, Pasco	132	Yes

^a All hospitals in this listing have emergency rooms and provide emergency medical services.

Source: Data from the Directory of Acute Care Hospitals, Washington State Department of Health (1995) as cited in OPL 1998.

Table 3.17-8. Acute Care Hospitals in the Kittitas Terminal Vicinity

Item	Agencies*				
	Kittitas Valley Community Hospital, Ellensburg	Columbia Basin Hospital, Ephrata	Samaritan Hospital, Moses Lake	Providence Yakima Medical Center, Yakima	Yakima Valley Memorial Hospital, Yakima
Number of Staff	1 emergency room physician in hospital 24 hours a day, 365 days a year. 26 physicians on staff. 70 nursing personnel on duty during regular business hours.	6 MD's - 4 Mid level PA - ARNP.	Physicians: 51 Nurses: 87	Medical Staff - 200; Nurses (all shifts) - 235.	318 physicians, 258 nurses.
Number of Personnel Typically On Duty	Typically 135 on-duty staff members during regular hours. During off-hours there are only three depts. that don't have in-house personnel on-duty; imaging services, pharmacy, and housekeeping. There is one on-call person for each of these three departments with more available in an emergency.	15-25 on-duty business hours. 10 on-duty after hours. 5 on-call various capacities.	On-Duty - Approx. 107 FTEs per day over 3 shifts. On-Call - Approx. 20-25 people per day.	80 RN's and techs with ancillary support staff on-call system available.	Personnel on-duty: 365; on-call: 1152 (for disasters). Emergency Dept.: on duty: 2 phy., 6 nurses; on-call 11 phy., 22 nurses.
Types and Average Numbers of Services Provided	ER volumes average 650 per month over the course of the year. Higher volumes seen in the summer months. Hospital is a designated Level IV trauma facility and sees approx. 50 multi-system (seriously injured) trauma patients per year.	Primary Care/ Emergency - Trauma. 200 ER pts/month 2-3 ER trauma/week.	Service - 24 hours a day, 7 days a week physician staffed ER service. Avg. # pts. per year - 148 critical care patients. Percent use of ER services daily, seasonally - Unlimited capacity at current levels, i.e., 1000 visits per month.	Full service hospital; Trauma; Advanced Cardiac Care; Average daily emergency census - 85; Level III Trauma Service shared with Yakima Valley Memorial Hospital.	Types of services: full service hospital. Trauma Center Level III. 1996 trauma patients totaled 467, other patients totaled 34,744.
Patient Referrals	A majority of patients transferred/referred out are sent to Yakima, with the exception of multi-system trauma, which go to Seattle. Non-trauma referrals not sent to Yakima primarily go to Seattle.	Samaritan Hospital - Moses Lake, Central Washington Hospital - Wenatchee, SHMC - Spokane.	Referrals to Spokane, Wenatchee, and Seattle.	Transfers to Harborview in Seattle.	Providence-Yakima MC or Harborview (Seattle).
Special Support Facilities	Airlift Northwest (Seattle) is primary air ambulance service. The hospital has a helipad on-site. Serious burn patients are airlifted to Harborview in Seattle. In major disasters, airlift services from Spokane and Wenatchee would likely be used, as well as MAST (military)	Rotary Wing - Medstar Fixed Wing - Medstar Fixed Wing - Airlift NW Burn taken to Harborview MC or SHMC in Spokane.	Special Services: Air Ambulance - Spokane; Burn Care - Harborview, Seattle; Neuro-trauma - either Spokane or Seattle.	Burn treatment - Harborview, Seattle; Air Ambulance - Airlift NW, Seattle; Local Support (Yakima Firing Center) MAST Helicopter; Local advanced life support - ground transport - two ambulance services.	MAST helicopters and Air Ambulance (from Seattle). Harborview is burn center.

Table 3.17-8. Acute Care Hospitals in the Kittitas Terminal Vicinity

Item	Agencies*				
	Kittitas Valley Community Hospital, Ellensburg helicopters.	Columbia Basin Hospital, Ephrata	Samaritan Hospital, Moses Lake	Providence Yakima Medical Center, Yakima	Yakima Valley Memorial Hospital, Yakima
How Calls Are Received	KITTCOM handles 911 calls and dispatches EMS personnel.	E-911 System for Grant County and Grant County Disaster preparedness.	Calls received /coordination: Through ER Manager, House Director, or Physician.	City wide disaster program - Medical control facility that coordinates major catastrophic events and multiple casualty incidents.	Emergency Medical System in place to call emergency facilities; follows established disaster protocols.
Current Needs	None at this time.	Don't know.	Current Staff: 385 people.	Current staff greater than 1000.	Current staff: 1152 (RN's 328, LPN's 58).
Anticipated Additional Needs During Project Operation	Anticipated additional staff would depend on injuries. Triageing would be done by City of Ellensburg Ambulance paramedics at the scene and those paramedics would decide where the injured were sent for treatment. Victims sent to KVCH would be triaged by the emergency dept physician on duty and appropriate decisions made as to additional staff needing to be brought in. KVCH has a Disaster Plan that would be activated in the event of a large number of victims being brought to the facility.	Don't know.	Currently there are no needs for explosion/fire treatment equipment. Currently there is no additional staff anticipated. If specific equipment is thought to be needed, funding may be required.	Would need to look at a coordinated effort with Airlift NW and local ambulances to transport large numbers of victims to Burn Center; Identify Harborview Hospital burn limit capacity and triage system for care of mass casualty victims.	All staff is considered on-call for disasters.

* Quincy Valley Hospital in Quincy did not respond to written request for information.

Sources: Jensen, E., Administrator, Kittitas Valley Community Hospital, personal communication, May 1997; Beach, A., Administrator, Columbia Basin Hospital, personal communication, May 1997; Baldwin, K., Administrator, Samaritan Hospital, personal communication, May 1997; Hood, B., Administrator, Providence Yakima Medical Center, personal communication, May 1997; Linneweh, R., Administrator, Yakima Valley Memorial Hospital, personal communication, May 1997. All as cited in OPL 1998.

Major public water supply providers in areas crossed by the pipeline corridor include the following: Alderwood Water District and Cross Valley Water District in Snohomish County; Carnation Water Department, King County Water District #127, Snoqualmie Water Department, North Bend Water Department, and Sallal Water Association in King County; Kittitas County Water Districts #3 and #5, and Kittitas Water Department in Kittitas County; Beverly Water District, Royal City Water Department, Royal Water District, and Port of Royal Slope in Grant County; Othello Water Department in Adams County; and Pasco Water Department in Franklin County.

Water for agricultural purposes is available in the vicinity of the pipeline corridor from public agencies, such as irrigation districts, and from private well systems. Irrigation water is distributed via closed pipelines or open canals. Major irrigation water supply providers in areas crossed by the pipeline corridor include the Cascade Irrigation District and Kittitas Reclamation District in Kittitas County; East Columbia Basin Irrigation District in Adams County; and South Columbia Basin Irrigation District, Smith Canyon Irrigation District, and Franklin County Irrigation District #1 in Franklin County. Further detailed discussions of water and water supply issues can be found in Section 3.6, Water.

3.17.1.6 Stormwater

In urbanized portions of the pipeline corridor, stormwater is handled by storm sewer systems or onsite collection and dissipation systems. In lesser developed areas, stormwater handling facilities are usually limited to grassy swales along roadways, and in some instances retention or detention ponds. Large portions of the pipeline corridor traverse undeveloped and/or sparsely populated areas with no formal stormwater handling facilities.

3.17.1.7 Sewer

In urbanized portions of the pipeline corridor, sewage and wastewater treatment and disposal are handled by underground sanitary sewer systems and sewage treatment facilities. Sewage and wastewater treatment plants near the corridor are located in Snoqualmie and North Bend in King County; Hyak, Cle Elum, and Kittitas in Kittitas County; Wanapum Village and Royal City in Grant County; and Pasco in Franklin County.

In less developed rural and agricultural areas, sewage treatment and disposal are handled onsite with septic tanks and associated drainfields. Large portions of the pipeline corridor traverse undeveloped and unpopulated areas with no centralized sewage treatment and disposal facilities.

3.17.1.8 Solid Waste

Solid waste collection services are available to residents living in urbanized areas near the pipeline corridor from a mix of county, municipal, and private agencies. Many communities contract with private haulers to provide residents with garbage collection and recycling services. Solid waste is typically hauled to large regional landfills operated at the county level, although there are also

smaller municipal and private transfer stations and landfills. Major landfills near the pipeline corridor include the Snohomish Regional Landfill, north of Clearview in Snohomish County; Cedar Hills Regional Landfill, south of North Bend in King County; Ryegrass Landfill, west of Vantage in Kittitas County; Ephrata Landfill, south of Ephrata in Grant County; Bruce Landfill, east of Othello in Adams County; and New Waste Inc. Landfill, east of Pasco in Franklin County.

Much of the less developed rural and agricultural portion of the pipeline corridor is outside of the coverage area of solid waste collection service providers. Residents of these areas either transport their refuse to established solid waste transfer stations, or burn it onsite.

3.17.1.9 Telecommunications

Telephone and telecommunication services are available to residents along the pipeline corridor from several service providers. The corridor crosses the service areas of the following local telephone service providers: GTE Northwest, US West Communications, PTI Communications, Inland Telephone Company, and Ellensburg Telephone Company. Through modern interconnected communications networks, long-distance telephone and other telecommunication services are available from up to 275 separate service providers in the six-county area. Among these companies, AT&T Communications, Sprint Communications, and MCI Telecommunications have the largest customer base and the largest installed network of underground lines and above-ground service facilities. In addition, World Communications Inc. (WorldCom) and AT&T have installed fiberoptic communications lines along some of the same ROW as the proposed pipeline, including through Snoqualmie Pass Tunnel.

3.17.1.10 Energy and Natural Resources

Energy and natural resource services are available from a variety of providers along the pipeline corridor, depending on the resource. Electrical power is provided by local public utility districts, electrical cooperatives, or larger power companies. The pipeline corridor crosses the service areas of the following electrical power providers: Snohomish County Public Utility District, Puget Sound Energy, Tanner Electric Cooperative, Kittitas Public Utility District, Grant County Public Utility District, and Big Bend Electrical Cooperative. Puget Sound Energy has an overhead electrical powerline along some of the same ROW as the proposed pipeline. Other energy and natural resources that are available through local providers include fossil fuels, water (see the **AWater** section above and Section 3.6, Water), aggregate gravel, sand, cement, and other building materials.

3.17.2 Environmental Consequences

3.17.2.1 Proposed Petroleum Product Pipeline

As described in Chapter 2, the proposal construction workforce would be split into three construction spreads. Spread 1 would construct the western portion of the project, Spread 2 would

construct the central mountainous portion, and Spread 3 would construct the eastern portion. The construction workforce peak for each spread would include 375 workers for Spread 1, 159 workers for Spread 2, and 375 workers for Spread 3. Approximately 70 percent of the proposal construction workers (640 workers for the three spreads) would come from outside the state.

Because most of the construction would last approximately 12 months, few of the out-of-state workers would be expected to bring families with them. With favorable weather, the expected duration of construction at any one location along the pipeline corridor is no more than 10 days.

The completed proposal would employ at least 10 people: four employees added to OPL's Renton facility for control and monitoring of products movements, four employees to staff the Kittitas Terminal to handle incoming tanker truck loading activities, and two employees at the Pasco Delivery Facility. An additional 6 to 10 OPL employees would be hired locally and would be responsible for maintenance of the pipeline and ROW.

With no extensive demand on any public service or utility anticipated, as illustrated above, and with the implementation of measures to reduce traffic impacts (see Section 3.10, Traffic and Transportation), the overall impact to most public services and utilities is expected to be minor and short-term. Measures to be implemented as part of the proposal are included in Appendix C.

Construction Impacts

Police. During construction, the influx of out-of-area construction workers into neighboring communities and the construction activities themselves may result in a minor and temporary increase in the demand placed on local police departments. Due to the short-term nature of the construction activities at any one location along the pipeline corridor (10 days or less), this impact is expected to be negligible.

Traffic controls and detours associated with construction in and near the communities of Snoqualmie, North Bend, Kittitas, and Pasco may alter access routing for police vehicles. However, the project would include consideration of emergency vehicle needs. In addition, coordination with local police departments would occur before and during the construction phase. Local police departments would be kept abreast of construction progress, and contingency plans would be developed to guide activities in the event of an emergency. The impact of construction on local police departments is therefore anticipated to be negligible.

Fire. Construction activities may result in a minor and temporary increase in the demand placed on the staff of local fire departments and fire protection districts. The same factors applied to police protection would be implemented with regard to fire protection including coordination with local fire protection providers and route access alterations for emergency vehicles. In addition, stringent construction health and safety measures would be enforced to reduce the potential for accidents, particularly during the welding phase. Contingency plans would be developed to guide activities in the event of a fire emergency.

Due to the small number of fire incidents that might occur during the construction phase of the proposal and the short-term nature of construction at any one location, the impact on local fire protection providers is therefore anticipated to be negligible.

Hospitals and Emergency Medical Services. A minor and temporary increase in the demand on local emergency medical service providers and local hospitals may occur during construction. The 12-month construction phase would require approximately 700,000 individual worker hours of labor. Based on Department of Labor and Industries data for similar pipeline construction projects, an expenditure of this many worker hours is expected to generate approximately 130 claims. (A claim is defined as a request for medical treatment and/or benefits.) Averaged over the 12-month construction period, this calculates to 10 claims per month over the six-county proposal area.

The same factors regarding coordination and emergency vehicle access needs would be applied to medical service providers as described above for police and fire protection. When these factors are taken into consideration, along with the stringent health and safety measures described under fire protection, the impact of proposal construction on local emergency medical service providers and local hospitals is expected to be minor.

Schools. Due to the short duration and mobile nature of the construction activities, few if any of the out-of-area construction workers are expected to be accompanied by families. School enrollments are therefore not expected to be affected by the influx of out-of-area construction workers into nearby communities. Students and staff at schools near the pipeline corridor may experience disturbances to their daily routines due to noise and dust generated by construction. Due to the short-term nature of the construction activities at any one section of the pipeline corridor, this impact is expected to be negligible.

Traffic controls and detours associated with construction in and near the communities of Snoqualmie, North Bend, Kittitas, and Pasco may cause access problems for school buses. However, the project would also include consideration of school buses, and the impact of construction on these vehicles is anticipated to be negligible.

Water. During proposal planning, the location of all buried water lines and irrigation canals and facilities in the vicinity of the pipeline corridor would be determined. Construction methodology and activities would be planned and coordinated with water supply service providers to avoid damage to existing lines and facilities. Contingency plans would also be established to guide activities in the event of water contamination or damage to existing lines and facilities. Construction-related impacts to existing water supply lines, canals, and facilities are therefore expected to be minor.

During construction, approximately 5.7 million liters (1.5 million gallons) of water would be used for hydrostatic testing of the pipeline and 15.9 million liters (4.2 million gallons) for testing the tanks at the Kittitas Terminal. This water would be obtained from the Snoqualmie River, City of North Bend, Cascade Irrigation Canal, and the Wahluke Branch Canal. Hydrostatic test water would be routed through the pipeline and reused as much as practicable to reduce the total water demand for this process. Prior to discharge, hydrostatic test water would be analyzed and discharged into temporary sediment traps. Hydrostatic test water would then be released at a low enough rate to

minimize impacts to the receiving water body. Test water would be discharged at the Stampede Pump Station site, Kittitas Terminal site, and at the Pasco Delivery Facility. Due to the relatively low volume of water required, this process is expected to have a minor effect on local availability of potable or irrigation water.

Stormwater. During construction, site alteration, earth movement, and compaction would heighten the potential for increased stormwater runoff, erosion, and sedimentation. This potential would be important where the pipeline crosses natural and artificial drainages. Erosion and sedimentation potential would be reduced by the implementation of the Department of Ecology's BMPs (see Appendix C). Implementation of construction methodologies to reduce stormwater runoff (including BMPs) is expected to reduce runoff volumes to levels which can be adequately handled by installed facilities, thus having a minor impact.

Sewer. During proposal planning, the location of all buried sewer lines, septic systems, and facilities in the vicinity of the pipeline corridor would be determined. Construction methodology and activities would be planned and coordinated with local sewer utilities to avoid damage to existing lines and facilities. Contingency plans would also be established to guide activities in the event of damage to existing lines and facilities. Construction-related impacts to existing sewer lines, septic systems, and facilities are therefore expected to be negligible.

Solid Waste. During construction, OPL would contract with a solid waste collection contractor for removal of solid waste generated onsite. The volume of solid waste generated is not expected to be large for construction. The solid waste generated would be comprised mainly of spent construction materials. Brush and other vegetation cleared from the ROW would either be burned, chipped onsite, or hauled offsite to an approved disposal facility. Soil removed during trenching operations would be used for backfilling the pipeline, for erosion control, and landscaping. Merchantable timber would be sold. No hazardous waste would be generated by the construction activities. Therefore, solid waste impacts are anticipated to be minor.

Telecommunications. During the planning of the proposal, the location of all overhead and buried communications lines and facilities (e.g., the WorldCom and AT&T fiberoptic lines in the ROW) and others in the vicinity of the pipeline corridor would be determined, including underground fiberoptic cables. Construction methodology and activities would be planned and coordinated with communication service providers to avoid damage to existing lines and facilities. While no service interruptions or pipeline corridor changes are anticipated due to the location of underground communication lines, contingency plans would be established to guide activities in the event of damage to existing lines and facilities. Construction-related impacts to existing communication lines and facilities are therefore expected to be negligible.

Energy and Natural Resources. Construction-related impacts on energy and natural resources are considered to be relatively minor. The largest non-renewable energy resource consumed would be fossil fuels, in the form of diesel and gasoline. To a much lesser extent, electricity would also be consumed. Measures taken to avoid impacts to the electrical lines during construction would be the same as those discussed for telecommunications, above. The main non-renewable natural resources would be steel (coming from iron ore), gravel (from existing gravel pits), and concrete (coming from aggregate gravel, sand, and cement quarries and pits).

Energy would be consumed by construction vehicles, trucks, mobile equipment, and tools operated in the actual construction of the pipeline, pump stations, and the Kittitas Terminal. During the 12-month period encompassing construction and post-construction activities such as inspection, the estimated average daily usage of diesel fuel would be 28,804 liters (7,600 gallons), with a peak daily usage of 57,608 liters (15,200 gallons). The estimated average daily usage of gasoline during construction would be 15,539 liters (4,100 gallons), with a peak daily usage of 31,078 liters (8,200 gallons). These fossil fuels would be obtained from local bulk petroleum distributors. These distributors have adequate capacity to accommodate the fuel needs of this proposal.

The proposal would be constructed using materials, such as steel, that require energy and natural resources for fabrication. Energy would also be required to transport these materials from the fabrication point to the ROW. Data for energy and natural resource usage during this activity are not readily available; however, such consumption would predominately be in the form of electricity and fossil fuels, and various minerals and metallic ores.

The quantities of aggregate gravel, sand, and cement required would not generally be considered **large** (Table 3.17-9). These materials would be used primarily for construction of equipment and building foundations. Aggregate gravel, sand, and cement would be supplied by local vendors. Soil excavated during trenching operations would be the primary source for backfill material for the pipeline. There are local sources of the needed materials that are believed to be adequate along the pipeline corridor. Other building materials, equipment, and operational commodities would be purchased from equipment and material suppliers.

Operational Impacts

Police. During operation, the pipeline would be buried in a clearly marked ROW. The Kittitas Terminal would have an integrated security and fire detection/suppression system. Police response capabilities would be provided by the four police departments in the vicinity of the Kittitas Terminal. OPL would provide onsite security during operation of the Kittitas Terminal, and is not intending to rely on the Kittitas Police Department to provide 24-hour-a-day coverage. OPL is in the process of negotiating a services agreement with the City of Kittitas, and this agreement would determine the services that would be provided and the funding mechanisms. It is anticipated that the Kittitas Police Department would provide response to criminal activities should they occur at the site. These factors, coupled with the relatively small number of employees associated with every-day maintenance and operation of the pipeline, would minimize additional demands placed on local police departments. The operational impacts of the proposal on local police departments are therefore anticipated to be negligible.

Fire. As with police protection, the every-day operational impacts of the proposal on fire protection providers are anticipated to be negligible due the clearly marked ROW, the integrated security and fire detection/suppression system at the Kittitas Terminal, and the relatively small number of employees associated with maintenance and operation.

The three fire departments in the vicinity of the Kittitas Terminal are not currently equipped to respond to a major petroleum fire (Section 4.1, pages 45-56 of OPL's ASC describe the potential size and effect of such a fire). OPL would have adequate fire detection and suppression equipment

Table 3.17-9. Estimated Construction Material Quantity

[illegible]

Table 3.17-9. Estimated Construction Material Quantity

County	Mile Post*	Pump Station	MLV Site	Concrete								Building (sf)	Fence (lf)	Structural		Precast Concrete Building (8'x8'x9')	
				Length (LF)	Cement (ton)	Sand (ton)	Gravel (ton)	Graded Soil (cy)	Crushed Stone (cy)	Asphaltic Concrete (tons)	Clay Liner (cy)			Steel (ton)	Padding (cy)		
Subtotal		1	1	44,800	16	33	58			819		3,184	990	3		1	
Franklin	189.9 - 231.230																
Pasco Facility		1			25	45	75			834		2,520	900	3			
Remote Valve			1		1	2	4					64	100			1	
Pipeline				216,480													
Subtotal		1	1	216,480	26	47	79			834		2,584	1,000	3		1	
Total		6	23	1,196,560	861	1,813	3,180	7,000		4,536	1,417	3,117	25,180	13,747	83	42,000	23

*Mileposts are approximate.

Source: OPL 1998.

onsite at the terminal to respond to a limited facility fire or storage tank fire. OPL would only expect responding fire personnel to establish a safety perimeter around the facility and manage access and evacuation if necessary until OPL terminal staff arrived. OPL personnel would arrive quickly in response to such an emergency. OPL would coordinate with the responding emergency service and advise and assist during the emergency. Mutual aid agreements would provide equipment, materials, and training for local fire departments or emergency responders. Should any single event tax the suppression system beyond its capabilities or beyond the capabilities of OPL or other local resources, OPL would have immediate access to professional fire fighting firms located in California or Texas who would have the resources and expertise to manage a large tank/facility fire. This is the same fire suppression backup resource that is available to refineries and fuel storage facilities, and provides personnel, foam, and other equipment in large quantities within 3 hours.

Where needed, OPL would provide equipment and materials and sponsor training for local fire departments or emergency responders. The facility would be required to have an approved Spill Prevention, Control, and Countermeasure (SPCC) plan before operation which would specify response resources and the role of various responding agencies.

Hospitals and Emergency Medical Services. Employment projections for the operational phase of the proposal indicate that approximately 20,000 individual worker hours would be required annually for operations at the Kittitas Terminal and maintenance along the pipeline corridor. Based on Labor and Industries data for similar industries, this annual labor expenditure is expected to generate one claim per year. When taken in combination with the same factors listed for police and fire protection services above, the demand placed on local emergency medical service providers would be minimal. Therefore, operation would have negligible impact.

Schools. During operation, four employees would be added to the Renton facility, four employees would staff the Kittitas Terminal, two employees would staff the Pasco Delivery Facility, and approximately six to ten other employees would be added locally along the line for pipeline and ROW maintenance. Area schools have sufficient capacity to accommodate this small increase in population and subsequent potential increase in enrollment. Other operational and maintenance activities at the pump stations, Kittitas Terminal, Renton Control Center, and on the pipeline corridor would be localized to these facilities and are not expected to affect local schools and educational facilities. Thus, a negligible impact would result.

Water. Operational activities at the pump stations, Kittitas Terminal, Pasco Delivery Facility, and on the pipeline corridor would be localized to these facilities, and are not expected to have an effect on local water supply providers. Proposal-related potable water needs would be limited to that required for domestic consumption at the Kittitas Terminal, Thrasher Station, North Bend Station, and Pasco Delivery Facility. The connections at Thrasher would consist of a water tap to the existing municipal system. The connections at North Bend would consist of an existing well.

There are no municipal system connections available at the Stampede, Beverly-Burke, and Othello Pump Station sites at the present time. Because these facilities would be constructed at some future date, detailed plans would be developed and submitted to EFSEC for approval when OPL determines that the additional stations are required.

Due to the small number of employees who would staff the Kittitas Terminal (four total) and Pasco Delivery Facility (two total), the volume of water required for operation is expected to have a negligible impact on the local water supply service provider. Maintenance activities at proposal facilities located near water lines and irrigation canals would be coordinated with individual service providers to prevent water contamination or damage to existing water supply facilities. (See Section 3.6, Water, for a further detailed discussion of water and water supply issues.)

Stormwater. During operation, increased impervious surface area is expected to have a negligible impact on the existing stormwater flow patterns of the proposal area.

Sewer. Operational activities at the pump stations, Kittitas Terminal, Pasco Delivery Facility, and on the pipeline corridor would be localized to these facilities and are anticipated to have a negligible impact on existing sewage treatment and disposal systems.

Proposal-related sewer needs would be mainly limited to that generated by operations at the Kittitas Terminal and Pasco Delivery Facility. Sewage generated by the terminal would likely be disposed of in the sewage treatment plant in Kittitas. Current projections indicate the anticipated sewage flow volume from the terminal would be approximately 3.8 liters (1 gallon) per minute. The Kittitas sewage treatment plant has adequate capacity to accommodate this additional demand. (Varela & Associates 1996 in OPL 1998.) The Pasco Delivery Facility would generate very limited quantities of sewage with only two people and no impacts to local facilities would occur.

The pump stations would be unmanned, automated facilities. These stations may, however, have lavatory facilities for workers performing periodic maintenance. The two western Washington stations (Thrasher and North Bend) may be connected to an existing sewer system if an onsite septic system is not feasible. An existing sanitary sewer system lies approximately 460 m (1,500 feet) away from the proposed location of the North Bend Station. If these stations are connected to an existing sewer system, the anticipated sewage flow volume would be lower than that of an average single-family residence. The three eastern Washington stations (Stampede, Beverly-Burke, and Othello) are each located in an area that would permit an onsite septic system.

Any additional sewage or wastewater generated by the pump stations during periodic maintenance would be collected and disposed of in an approved disposal facility. Maintenance activities at proposal facilities located near underground sewer lines and facilities would be coordinated with local sewer utilities to prevent damage to these facilities.

Solid Waste. During operation, OPL would contract with a solid waste collection contractor for removal of solid waste generated onsite. The volume of waste is not expected to be large for operation of the proposal and thus would have a negligible impact.

Telecommunications. Operational activities at the pump stations, Kittitas Terminal, and on the pipeline corridor would be localized to these facilities, and are anticipated to have a negligible impact on local communications service providers. Maintenance activities at proposal facilities located near communications lines would be coordinated with individual service providers to prevent damage to existing communications facilities.

Energy and Natural Resources. The main resource consumed during operation, and the primary energy source, would be electricity. A detailed description of projected energy utilization requirements for the 30-year operating period assumed for the proposal can be found in the energy and natural resources section of the ASC (OPL 1998). The individual sources and uses of electricity are as follows.

The Snohomish County Public Utility District is the energy supplier in the area of the proposed Thrasher Station. Puget Sound Energy has a power line near the proposed site and no new transmission line poles would have to be constructed to serve the site. Puget Sound Energy and the Snohomish Public Utility District have a reciprocity agreement that allows service to customers outside of normal service areas, and services OPL's existing Woodinville Station in a similar manner. The Snohomish Public Utility District's nearest substation is at Turners Corner, approximately 2.4 km (1.5 miles) east of the Thrasher Station. The Snohomish Public Utility District would build a substation on the pump station property and enter into an agreement with Puget Sound Energy to tap its transmission line which crosses the pump station property. The Thrasher Station would have an annual power usage ranging from 16.6 million kilowatt-hours (kWh) to 24.7 million kWh.

Puget Sound Energy and Tanner Electric are the suppliers in the area of the proposed North Bend Station. The proposed pump station would have an annual usage of 3.0 to 13.5 million kWh during the 30-year operation period and could be served either by Puget Sound Energy or Tanner Electric Cooperative, both of which have substations in the vicinity of the site. Puget Sound Energy has a substation approximately 60 m (200 feet) from the site with adequate capacity to serve the station. Tanner's new South Fork Substation is located about 1.6 km (1.0 miles) northwest of the pump station. In either case, new dedicated overhead or underground 4 kilovolt (kV) service lines would have to be extended to the station property.

Puget Sound Energy and the Kittitas County Public Utility District #1 are suppliers in the area of the proposed Stampede Station. Puget Sound Energy has an existing transmission line immediately adjacent to the site. Puget Sound Energy would build a new dedicated 4 kV feeder line and a new substation and tap their existing Cle Elum-Hyak 115 kV transmission line. Kittitas County Public Utility District #1 would serve the pump station by constructing a 115 kV line to a 12.5 kV substation and tapping Puget Sound Energy's 115 kV transmission line in the vicinity of the intersection of the Stampede Pass Road and the railroad ROW (Iron Horse Trail). This location is just north of the Stampede Pump Station. A short underground distribution line would be constructed from the substation to the pump station stepdown transformers. Over the 30-year operation period, the Stampede Station would have an annual power usage ranging from 0.018 to 13.3 million kWh.

Puget Sound Energy and Kittitas County Public Utility District #1 are the suppliers in the area of the proposed Kittitas Terminal. There are no defined territorial boundaries in this area and either Puget Sound Energy or Kittitas Public Utility District could provide service to the terminal. Puget Sound Energy has a substation with adequate capacity on the south side of the city's main commercial area, about 1.2 km (0.75 miles) to the north and west of the terminal property. If Puget Sound Energy were the supplier, they would build either two dedicated 4 kV underground feeder lines from the Kittitas Substation, or a new tap of the Taunton-Kittitas 115 kV line and a dedicated 115-4 kV substation constructed on the terminal property. Kittitas County Public Utility District #1 has a 34.5 kV transmission line running west to east through the City of Kittitas, about 1.6 km (1.0 mile)

north of the station property. If Kittitas County Public Utility District #1 were the supplier, they would build a 34.5-12 kV substation near the 34.5 kV transmission line, tap into their 34.5 kV transmission line, build an underground 1.6 km (1.0-mile) transmission lateral to the terminal, and build a distribution substation on the terminal property. The entire Kittitas Terminal, including the station and the rack, would have an annual power usage ranging from 11.3 million kWh initially to 17.1 million kWh by the 30th year of operation.

The Beverly-Burke Station would have an annual power usage of 0.018 million kWh over its 30-year operation period. Electrical power would be supplied by the Grant County Public Utility District. The Public Utility District has a 13.8 kV transmission line paralleling Beverly-Burke Road a few hundred feet from the site. Grant County Public Utility District would construct a short distribution tap line (either overhead or underground) from the existing 13.8 kV distribution feeder to a utility substation (step down transformer) on the pump station site. Grant County Public Utility District has found that their existing Jericho substation has sufficient capacity to serve the pump station load and no modifications are required.

The area where the Othello Station is proposed is served by the Big Bend Electrical Cooperative. Big Bend has a transmission line along State Route 24 approximately 0.8 km (0.50 mile) south of the station property. Big Bend would tap into their transmission line, build a new 0.8 km (0.50-mile) line from State Route 24 to the site, and build a distribution substation (stepdown transformers) on the station property. The Cooperative currently has adequate capacity in the existing transmission line to serve the site from the Eagle Lake Substation located about 8.0 km (5.0 miles) south of the pump station. The annual power usage by the Othello Station would be approximately 0.018 million kWh over its 30-year operation period.

The proposed Northwest Terminalling site at Pasco currently has power and no new upgraded transmission lines would be required for OPL facilities. Power would be provided by installing a second distribution transformer and service at the existing facility.

All block valves would require power. Sites for block valves have tentatively been identified, and would be served by a variety of suppliers. Sites were selected with power availability in mind, loads are very small, and there are no special power requirements. Hence, no difficulty in securing service is anticipated.

There would also be minor consumption of various metals, petroleum-based lubricants, paints, and selected chemicals as the pipeline, pump stations, and Kittitas Terminal are operated and maintained. Other energy and natural resource usage is expected to be negligible.

Columbia River Approach and Crossing Options. Energy impacts would be essentially the same for all segment options and Columbia River crossing options.

Cumulative Impacts. Operation of the project would consume electricity for powering the Kittitas Terminal and pump stations. Annual power usage would range from approximately 31.5 million kWh initially to 68.6 million kWh by the 30th year of operation. In addition, there would be minor amounts of various non-renewable natural resources consumed during operation and maintenance activities. The consumption rate of these resources would not be at levels considered

significant enough to create a major impact when combined with other possible projects in the vicinity of the proposal.

To the extent that this pipeline consumes a limited ROW in the Snoqualmie Tunnel, some future utility may be precluded from building. A WorldCom fiberoptic line recently built in the Snoqualmie Tunnel also contributes to this limitation.

3.17.2.2 No Action

Under the No Action Alternative, the proposal would not be constructed. Petroleum products would continue to be transported between western and eastern Washington by tanker truck on interstate highways and by barges on the Columbia River. The number of trips per day by each means of transport would increase over time, requiring an increased consumption of energy (fossil fuels for barge and tanker truck operation and electricity for river lock operation) and increased risk of spills, requiring police and fire protection services. While this would be the primary effect on public services and utilities, the impact would be considered negligible.

3.17.3 Additional Proposed Mitigation Measures

No additional mitigation measures, beyond those included as part of the project by the applicant, are proposed.

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